in a longitudinal and obliquely longitudinal trend and enclosing usually long cells, the sculpture of *D. californicus* on the other hand, consists mainly punctate reticulations, the enclosures being more or less roundish, with the longitudinal trend being much less marked, and the vertex with discrete punctures; d) the sculpture of the meso-and metanotum is rather compactly longitudinally striate or carinulate in *D. morelensis*, in *D. californicus* it consists of more widely spaced punctate foveae.

LITERATURE CITED

Williams, F. X., 1960. Wasmann Jour. Biol. 17(2): 229-303; figs. 1, 2, and 4.

THE IDENTITY OF LYGAEUS SIDAE FABRICIUS, TYPE SPECIES OF THE GENUS NIESTHREA

(HEMIPTERA: COREIDAE)

REECE I. SAILER, *Entomology Research Division, A.R.S., U.S. Department of Agriculture*

The classification of the genus *Niesthrea* is in a chaotic state and will remain so until type specimens of many species described by Signoret, Stål and others can be seen and the characters of the male and female genitalia described. However, thanks to the cooperation of S. L. Tuxen and Mrs. Ella Zimsen of the Universitetets Zoologiske Museum at Copenhagen, Denmark, I have been able to examine two of the four specimens that comprise the type series of *Lygaeus sidae* Fabricius. As a result it is now possible to establish the identity of *sidae* and describe as new a common United States species that has been erroneously placed under this name. The synonymy listed below for *sidae* is intended to show only the combinations in which the name has been used.

Niesthrea sidae (Fabricius)

Lygaeus sidae Fabricius, 1794. Entomologia Systematica, Tom. 4, p. 169.

Coreus sidae Fabricius, 1803. Systema Rhyngotorum, p. 201.

Coryna sidae, Wolff, 1811. Icones Cimicum descriptionibus illustratae, fasc. 5, p. IV. [*Coryna* Wolff, 1811 is a homonym of *Coryna* LeBosc, 1802—see Harris, 1942. Jour. Kans. Ent. Soc. 15: 63-64.]

Rhopalus sidae, Dallas, 1852. List of Hemipterous Insects in . . . British Museum, Pt. 2, p. 152.

Niesthrea sidae, Spinola, 1837. Essai Insectes Hémiptères, p. 245.

Corizus sidae, Signoret, 1859. Ann. Soc. Ent. France [III]7: 95.

Corizus (*Niesthrea*) *sidae*, Stål, 1870. Kongl. Svenska Vetensk.-Akad. Handl. 9: 223.

Niesthrea sidae, Harris 1943. Iowa State Coll. Jour. Sci. 17: 201-202.

Length including membrane.—Males: Average, 5.5 mm., range 4.8 to 5.0 mm. Females: Average, 6.5 mm, range 6.0 to 7.0 mm.

Width across humeral angles.—Males 1.8 to 2.2 mm.; females 2.1 to 2.5 mm.

Shape, elongate oval; body a little more than twice as long as greatest width across abdominal segments IV and V.

Head triangular, a little broader across eyes than long, ratio 19:17; bucculae elevated, tapered posteriorly, reaching anterior margin of eyes. Antenniferous tubercles scarcely visible from above and but slightly flared before anterior margins of eyes, apex of each tubercule not swollen (see fig. 1). Tylus reaching or slightly exceeding apex of first antennal segment, declivent and a little bulbous before apices of juga. Juga about half as long as tylus. Ocelli on elevated prominences, each of which is separated by a shallow groove from a similar prominence located behind inner hind angle of eye. Ratio of antennal segments 5:14:14::16. Rostrum almost reaching second abdominal conjunctiva; ratio of segments 10:11:9:13.

Pronotum with cicatrices impressed, smooth, widened laterally and curved anteriorly, margined in front by a low transverse ridge. Lateral margin carinate, impressed behind each cicatrix. Median longtudinal line raised. Humeral angles rounded laterally, elevated discally. Scutellum a little broader than long, apical third constricted, depressed and moderately excavated before acute apex. Hind angle of metapleurite rounded, disc convex; both meso- and meta-pleurites expanded beyond costal margin of hemelytron. Hemelytra with costal margins almost parallel, veins raised, opaque, enclosed cells hyaline; embolium opaque and widened apically, reaching anterior margin of abdominal segment VI; membrane hyaline, extending beyond apex of abdomen.

Abdomen with connexiva expanded, broadly exposed, widest at the fourth conjunctiva. Tergum of last abdominal segment produced, with apex broadly rounded, more narrowly so in males.

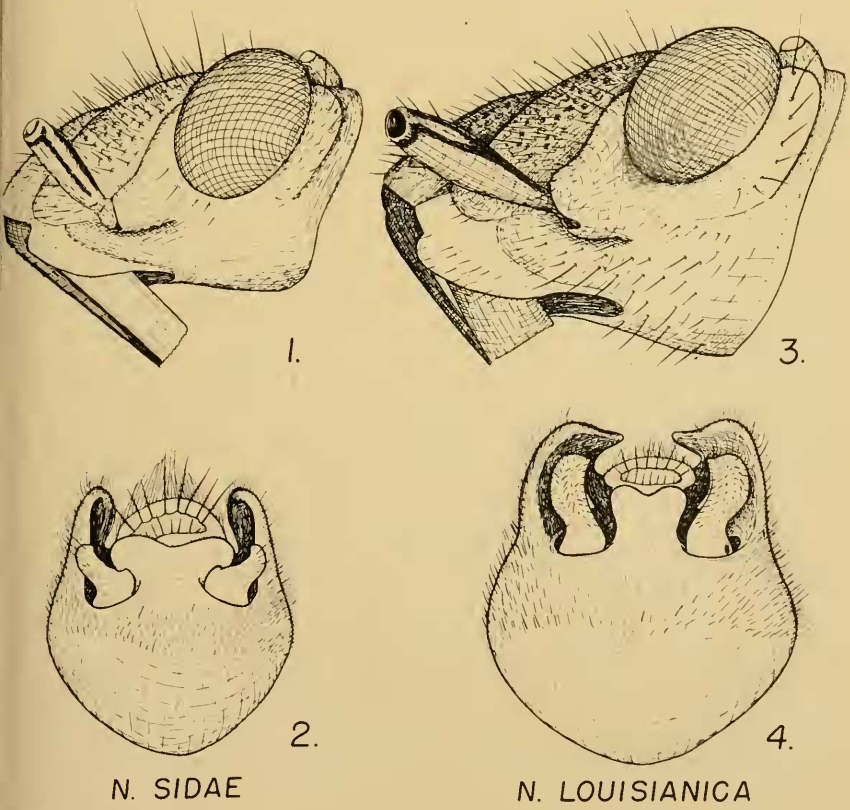
Male pygofer as shown in figure 2, median lobe of the posterior margin broad and noticeably constricted basally. The proportionately larger size of this lobe and its more broadly flared apex are perhaps the best characters for distinguishing *Niesthrea* from *Arhyssus*.

Color variable, ranging from gray through yellow to reddish yellow, usually with flecks to spots of brown or red scattered over pronotum, scutellum, pleura and venter of abdomen. Similar spots on veins of corium. In some specimens red spots on venter are concentrated into solid patches of color laterally, surrounding the pale margined spiracles. Lateral margins of segments IV, V, and VI often marked with fuscous, a darkened spot on each side of the median line of the head just behind the ocellus continued on the pronotum to the cicatrices. Dorsum of abdomen, typically with segment II darkened or even black, III pale except at middle, IV and V dark with median line tending to be paler, VI with broad median basal area and hind margin pale, VII pale except for dark median basal spot that in males tends to be attenuated toward and may attain apex of segment. Connexivum, with segments II and III, pale usually marked with red medially, IV, V, and VI fuscous to black, each with a transverse median spot and the anterior and posterior margins pale; VII pale, suffused with red medially. Legs pale with red, brown, or fuscous spots, which on the femora tend to form concentric rings with the apical pair on each hind femur usually continuous and sometimes fused to form a band.

Antenna generally pale with two narrow dark lines on dorsal surface of first segment diverging toward apex, each continuing as a narrow lateral line along sides of second and third segments; fourth segment fuscous or black, except for pale base and apex.

Head, pronotum, scutellum, and pleurites except broad hind margins of metapleura, deeply and closely punctured; tergites of abdomen with smaller but more closely spaced punctures. Connexiva and venter of abdomen smooth. Body generally, except for hyaline cells and membrane of hemelytra and tergum of abdomen, moderately clothed with pale pubescence.

Distribution.—Throughout the West Indies, the northern coastal regions of Venezuela and Columbia, Central America, and Mexico. In the United States the species seems to be restricted to Florida and



Niesthrea sidea (F), Baracoa, Cuba. Fig. 1, lateral view of head; fig. 2, male pygofer. *Niesthrea louisianica* n. sp., Baton Rouge, La. Fig. 3, lateral view of head; fig. 4, male pygofer.

southeastern Georgia as far north as Sapelo Island, and to the area around Brownsville, Texas.

Type material.—According to information kindly provided by Dr. Tuxen, the "real type is in Fabricius' own collection in Kiel which at present we have borrowed—besides this [type specimen] we possess three specimens belonging to the type material (originating from a collection which two of his [Fabricius'] pupils formed, and from which he described a lot of species marked in his books as originating from 'Mus. D. Lund' or 'Mus. D. de Schestedt'." Mrs. Zimsen wrote that the abdomen of the specimen in the Fabrician collection is missing. For my study she sent two specimens from the "Schester & Tønder Lund" collection which bore the label "Amer. Insul. Pflug, Mus. S. & T. Lūnd, Coreūs sidae Fab." Both these specimens are females and appear to represent different species. One specimen is intact and the other lacks its head. The intact specimen is here designated as *lectotype*. It is paler and pigmented areas are fewer and smaller than is characteristic for the species. However, specimens in the U.S. National Museum from Cuba and Jamaica are similar, and one specimen collected "Near Santiago, Cuba, August 31, 1917, by Harold Morrison" has pigmentation identical with the Lectotype. This specimen has been labeled "Compared with lectotype."

It is possible that the type material labeled "Amer. Insul." originated in Cuba; however, Pflug spent the later years of his life on St. Croix, Virgin Islands, and died there in 1789. It is difficult to reconcile the data on the type material with that given by Fabricius in his description, where he records the species from "America meridionalis." Perhaps this is an example of Fabricius' tendency to indicate locality data in the most inclusive sense when he had material from several countries. If so, he may have had, or seen, specimens which he considered to be *sidae*, from continental areas of South or Central America. The name *Lygaeus sidae* may have been removed from the type material and replaced with *Coreus sidae* when Fabricius moved *sidae* to the latter genus in 1803.

The second specimen is almost devoid of pigmentation and agrees in all observable details with an example in the U.S. National Museum, collected Arreyo Arenas, Cuba, July 8, 1923, by S. C. Bruner. In addition to the difference in color, there are differences in the female genitalia which indicate that this second Fabrician specimen and the one collected by Bruner are not conspecific with the lectotype, but are a different and probably unnamed species. Although the two specimens from Fabricius' collection belong in different species, the fact that the one selected as lectotype of *sidae* represents a species common in Cuba and the second is similar to an undescribed species known from a single specimen collected in Cuba suggests that both came from Cuba.

Discussion.—The literature concerning the species is much confused. Many of the synonyms listed under the name *sidae* unquestionably refer to different species, while many of the references to *pictipes*

Stål, 1859, should be referred to *sidae* as represented by the lectotype. The name *pictipes* was established for specimens reported to have come from "Insula Taiti, Buenos Ayeres et Rio Janeiro." The Tahiti record is certainly erroneous, for there is no evidence that the genus *Niesthrea* occurs outside the Western Hemisphere. Since *sidae*, as recognized here, does not appear to occur south of the northern coastal regions of Venezuela and Columbia, *pictipes* is probably a name that should apply to one of the several species common in Brazil and Argentina.

Niesthrea louisianica, n. sp.

Similar to *sidae* in general habitus, but a little larger and the pigmentation generally darker, with color pattern showing more contrast and greater individual variation and the antennal tubercules more inflated. Males easily distinguished from those of *sidae* by the more elongate, blade-shaped parameres and the smaller, basally less constricted lobe on the posterior margin of the pygofer. The following description is concerned principally with the characters that differ from those of *sidae*.

Length, including membrane.—Males: Average 6.8 mm., range 6.0 to 8.0 mm. Females: Average 7.5 mm, range 7.0 to 8.5 mm.

Width at humeral angles.—Males 2.2 to 2.5 mm.; females 2.5 to 2.9 mm.

Head slightly broader than long (21:19); proportion of antennal segments as 6:16:16:17, antenniferous tubercule convex and slightly inflated along dorso-apical surface (fig. 3); rostrum with ratio of segments as 11:14:12:16, apex reaching to or beyond the second abdominal conjunctiva. Anterior lobe of pronotum convex almost nodulose laterad of the cicatrices, lateral margin raised, continuing around the posterior margin as a pale calloused line.

Male pygofer as shown by figure 4, the median lobe of the posterior margin shorter than the parameres, and with the sides straight or only slightly constricted toward the base.

Color yellowish to reddish testaceous, speckled with pigmented areas that may be reddish brown, sanguineous, or almost black. In some individuals the pronotum is suffused with sanguineous, leaving testaceous spots interspersed with fuscous spots involving one or several punctures. Each ocelear prominence bounded medially by a smooth fuscous or black band that is continued on the anterior lobe of the pronotum as a vitta-like spot. Pale median line of pronotum continued to apex of scutellum. Spots on veins of corum fuscous or black; embolium and apex of corium opaque, usually suffused with red. Underside of body with reddish flecks that often fuse to form spots or even bands of solid red. Spots on legs fuscous or black, usually fused to form 5 continuous rings around each femur and 7 around each tibia, the two apical rings on each femur usually connected along dorsal surface by a longitudinal line. Antenna with dark lateral lines as wide as the intervening pale areas. Rostrum with dark line from base to apex on lower side. Abdomen with tergite I black, II black with posterior margin pale, III pale, except for spot near posterolateral angle, IV black with pale anterior margin, V and VI black with pale longitudinal line across middle of V extended laterally along the fifth and sixth conjunctive, VII with black spot on disc, in males often extended to the base and sometimes to the apex. Connexivum pale with broad

dark bands across base and middle of segments IV, V and VI, these bands connected along inner and lateral margins, often fused to form 3 instead of 6 bands across each connexivum.

Head, pronotum and thoracic pleurites deeply punctured, the posterior lobe of metapleurite smooth. Dorsum of abdomen, except smooth seventh tergite, with smaller more closely spaced punctures. Most of the body surface, except hyaline cells of corium and membrane of hemelytra and the dorsum of the abdomen, with pale erect pubescence.

Distribution.—Found in association with malvaceous plants from Long Island, New York south along the eastern coast to Florida, and westward cross the Cotton Belt to the Huachuca Mts. of Arizona. In the Mississippi Valley the most northern record is Iowa City, Iowa.

Type material.—Holotype: ♂ Baton Rouge, Louisiana, Sept. 17, 1919, T. H. Jones, on okra pods. U.S. National Museum Cat. No. 64936 Allotype: ♀ same data. Paratypes:—ALABAMA: 1, Auburn, Aug. 4, 1896, C. F. Baker. ARIZONA: 4, Huachuca Mts., July, G. Beyer; 1, "Ariz.". Uhler Collection; 2, July 9, Brooklyn Museum Collection: 54, July 8-29, 1905, H. G. Barber. ARKANSAS: 1, Ashdown, Sept. 21, 1904 W. D. Pierce; 4, Little Rock, Sept. 12, 1938, W. F. Turner, on *Hibiscus syriacus*. FLORIDA: 1, Pinellas Co., Dec. 16, 1929, B. P. Moora. GEORGIA: 1, Atlanta, Oct. 4, 1934, P. W. Fattig; 2, Sapelo Isl., Sept. 8, 1944, on okra, Special Survey No. 19860; 7, Savannah, Sept. 22, 1943, on white *Hibiscus*, Special Survey No. 4113; 11, Dec. 8, 1944, Special Survey No. 21716; 2, same data, on *Nerium* sp.; 1, Waverly, Sept. 28, 1943, on rose of Sharon, Special Survey No. 4262. IOWA: 1, Iowa City, Oct. 30, 1915, D. Stoner. KANSAS: 2, Riley Co., Oct. 18, F. Marlatt; 2, Aug. 25, Popenoe; 2, Sept. 7, Popenoe. LOUISIANA: 1, Baton Rouge, Sept. 17, 1919, on okra pod, T. H. Jones; 7, Sept. 3, 1919, on *Hibiscus lasiocarpus*, T. H. Jones; 3, Sept. 22, 1924, on okra, C. E. Smith; 16, New Orleans, May 10, 1922; 60, Opelousa, collected by C. R. Pilate in 1897 during the months of April, May and June; 1, Palmetto, July 2, 1897, G. R. Pilate. MARYLAND: 1, "Md." Uhler Collection. MISSISSIPPI: 1, "Miss.", W. H. Ashmead; 5, Natchez, May 16-22, 1909, E. S. Tucker. NEW MEXICO: 1, Dona Ana Co., July 27, 1954, R. E. Fye, swept from cotton; 2, Anthony, Aug. 18, 1944, on blackeyed pea, Special Survey No. 18711; 1, Tularosa, T. D. A. Cockerell. NEW YORK: 1, Riverhead, Long Island, May 17, 1954, Roy Latham. NORTH CAROLINA: 1, Wilmington, Oct. 1, 1919; 1, April 15, 1916, H. B. Barber; 5, Winston-Salem, Oct. 20, 1933, R. J. Campbell, on *Althea;* 2, New Bern, Nov. 3, 1944, on *Hibiscus*; 1, Ashville, Sept. 26, 1939, B. H. Wilford, on *Hibiscus*. OKLAHOMA: 1, Ardmore, Nov. 10, F. C. Bishopp; 1, Ponca City, Nov. 4, 1907. SOUTH CAROLINA: 11, York, Nov. 21, 1927, Mrs. J. Barron; 1, Charleston, Sept. 26, 1944, on okra, Special Survey No. 19054; 2, Pritchardville, Oct. 12, 1944, on okra, Special Survey. TEXAS: 1, Anahuac, Oct. 28, 1918, H. S. Barber; 1, Oct. 31, 1918, H. S. Barber, on okra; 1, July 24, 1918, E. L. Diven; 1, Aug. 1918, H. C. Hanson; 1, Brownsville, Jan. 22, 1936, P. A. Glick, on cotton; 5, March 20, 1908, W. D. Pierce on *Sphaeralcea angustifolia;* 1, Sept. 20, McMillan; 1, Feb. 25, 1942, *Abutilon hypoleucum;* 1, Jan. 16, 1942, *A. hypoleucum;* 1, March, 26, 1942, *A. hypoleucum;*

5, Oct. 2, 1939, L. C. Fife, on *Wissidula amplissima;* 2, May 11, 1939, O. D. Deputy; 1, Oct. 7, 1939, L. C. Fife on *Anodo pentachista;* 1, Mar. 27, 1942, on hollyhock; 3, June 1903, Brooklyn Museum Collu.; 3, June 1904, H. S. Barber; 1, Jan. 16, 1923, T. C. Barber; 8, collected by Townsend; 4, Esperanza Ranch; 3, Boerne, Oct. 6, 1905, F. C. Pratt; 1, Dallas, Aug. 27, 1908, E. S. Tucker, on *Abutilon;* 2, May 17, 1906, W. D. Pierce on *Callirrhoe involucrata*; 1, May 9, 1906, F. C. Bishopp, on *Amorpha fruticosa;* 1, Concan, June 4, 1933, P. W. Oman; 1, San Diego, Sept. 26, E. A. Schwarz; 1, Paris, Nov. 20, 1905, F. C. Bishopp; 1, Kerrville, May 30, 1906, F. C. Pratt; 1, Corsicana, July 24, 1906, F. C. Bishopp; 1, Columbus, April 6; 1, Sabinal, June 3, 1910, Pierce and Pratt; 1, Del Rio, May 1, 1907, F. C. Bishopp, on *Ratibida columaris:* 1, San Benito, Nov. 24, 1944, on potato, Special Survey No. 11770; 1, Corpus Christi, April 19, 1907, C. S. Spooner; 1, San Antonio, May 14, 1906, F. C. Pratt; 1, June 1, 1910, W. D. Pierce, on *Abutilon* sp.; 1, San Angelo, Sept. 27, J. C. Crawford, on cotton; 2, Smith Point, July 29, 1918, E. L. Diven, on *Hibiscus incanus;* 1, Kirbyville, March 21, 1908, E. S. Tucker; 1, Terrill, Sept. 12, 1904; 1, Alvin, April 6, 1905, A. W. Morrill, on strawberry; 10, Plano, Aug. 5, 1908, E. S. Tucker, on *Abutilon;* 1, Devils River, May 7, 1909, F. C. Bishopp, on *Sphaeralcea angustifolia.* VIRGINIA: 5, Norfolk, Oct. 28, 1937, L. D. Anderson, on rose of Sharon; 2, Sept. 27-28, 1933, L. D. Anderson, on rose of Sharon; 3, Oct. 10, 1933, L. D. Anderson, on rose of Sharon.

Discussion.—In both taxonomic and economic literature this species has usually been called *sidae* or *pictipes* Stål. Most records for *sidae* from Florida are probably correct, since *louisianica* seems to be rare in that state. Texas records for *sidae* from the Brownsville area may also be correct; however, *louisianica* is also common there, and unless specimens are rechecked such records must be treated as referring to both species. Readio (1928) published observations on the life cycle, as well as excellent illustrations of the adult and life stages of *louisianica* under the name of *Corizus sidea.* His specimens were collected near Lawrence, Kansas where he found nymphs and adults feeding on the seed pods of velvet weed, *Abutilon theophrasti* Medic.

The name *louisianica* has been applied to the species because C. F. Baker recognized that the long series collected by G. R. Pilate at Opelousa, Louisiana, was different from the "forms of the species abundant in West Indies, Mexico and South America," which he referred to as the "specific group, *pictipes* of Stål" (1908, Can. Ent. 40: 244), and in his collection he used the manuscript name *Niesthrea pictipes* var. *louisianicus* Baker.

References

Baker, C. F., 1908. Preliminary remarks on American Corizini.—Canad. Ent. 40: 241-244.

Readio, P. A., 1928. Studies on the biology of the genus Corizus (Coreidae, Hemiptera).—Ann. Ent. Soc. America 21: 189-201.